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A comparative analysis of wildlife trafficking in Australia, New Zealand and the United Kingdom

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Abstract: *Wildlife trafficking is a major black market, and may be the second most profitable illicit market after drug trafficking. It has significant negative impacts on species, ecosystems, and biodiversity. After habitat loss, wildlife trafficking is the leading cause of extinction. It is also a threat to food industries and human health with its connection to disease transmission. The patterns of wildlife trafficking vary throughout the world and nations approach the prevention of it differently. The differences that exist raise the question as to why the levels differ between nations that appear to be similar. This is the case with the Australia, New Zealand and the United Kingdom, which are demographically similar with a significant shared cultural history. Yet New Zealand has high levels of wildlife trafficking, Australia low levels and the UK somewhere in between. This research uses the trade database from the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) to explore all the illegal trade incidents of these three countries reported to CITES from its creation in 1973. Combined with a review of the literature, the paper investigates the differences and similarities in the wildlife that is traded and the legislation that is implemented. It appears that more regulation in this instance may be connected to decreased levels of wildlife trafficking.*

Keywords: Wildlife trafficking; CITES; Australia; New Zealand; United Kingdom

Introduction

Environmental crime, particularly in the transnational context, is an area of global growing concern. Yet throughout the world it has remained outside of the research agenda of academia and research organizations. That has begun to change as is evident by the Australian Research Council funded Transnational Environmental Crime (TEC) Project that this study contributes to. As part of the larger aim of the TEC Project ‘to advance our understanding of the ways in which environmental commodities that are either sourced illegally or destined for illegal markets are traded’ (Elliott, 2011: 4), this study seeks to explore in more depth wildlife that is illegally trafficked. Also in furtherance of the aims of the project to develop a ‘more nuanced, evidence-based understanding of modalities and patterns’ of TEC and ‘to identify similarities and differences between the criminal practices and markets’ (Elliott, 2011: 4, 5), this study adopts a comparative approach incorporating illegal trade data obtained from the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) online trade database. Rather than comparing wildlife trafficking with another environmental black market, this study compares the nature and extent of wildlife trafficking between Australia, New Zealand, and the United Kingdom (UK). This will further understanding of the geographic differences, which can then inform efforts to improve policy intervention and prevention strategies.

Wildlife is defined within this study in the broadest sense. It includes plants and animals from the entire range of genera and species which are wild and sometimes propagated or captive bred and any products created from these species. Whilst there is legal and illegal trade of commercial and non-commercial species as well as unprotected and protected species, this study focuses on the illegal international trade, or trafficking, of CITES-listed species. This is in part because of the availability of data for CITES species and because CITES is the most prominent and widely adopted mechanism for those protecting endangered and threatened species that are traded internationally. This focus means

that the international illegal trade of non-CITES species is not discussed here. The data presented below are the known number of incidents of illegality that are reported to CITES. The total volume and individual amount of wildlife is not detailed as discussed shortly. As with all crimes, the data here is what is known; there is undoubtedly more illegal incidents occurring that are not uncovered or reported. A further note regarding the data – it is not possible to determine if the trends witnessed are due to increased or decreased enforcement efforts, an increase or decrease in illegal activity, or some combination.

The paper begins by detailing the methodology used in collecting data. This is followed by a section on each of the countries that are being compared, which includes discussions of the nature and extent of the wildlife trafficking taking place to and from that country as well as the routes of smuggling and the actors who might be involved. An analysis section exploring the similarities and differences between the countries comes next, followed by some final thoughts.

Methods

Australia, New Zealand, and the UK were chosen for this comparative study as they are culturally and demographically similar with a significant shared history. All three countries are a majority white European with smaller groups ethnic minorities the largest of which is the Maori in New Zealand at 14 per cent (CIA, 2014). The largest religious group in each country is Christian and a vast majority of people speak English as their first language (CIA, 2014). All are islands with a degree of isolation that leads to a level of control of legal and illegal wildlife trade not available to other nations. This allows more equal comparisons of the features of wildlife trafficking, particularly import/export regulations and biodiversity. A review of the relevant literature was supplemented with collection of all illegal trades reported to CITES for each of the three countries from 1975 through 2010. The quantitative trade data was obtained from the CITES website which is maintained by the United Nations Environment Program's Wildlife Conservation Monitoring Centre. All 178 Parties to CITES are required to report all CITES transactions to the Secretariat in Geneva and this is compiled into a publicly available database.

Seven parameters can be searched in the trade database. One of these parameters is 'source' and the selection chosen for this research was 'I' indicating that the wildlife was illegal and has most likely been confiscated or seized. This search term then captures all reported illegal trades for each of the three countries for the entire history of CITES. This data was downloaded into an Excel spreadsheet and filters were added to determine trends in the amount of illegal trade overall, countries illegally importing and exporting to the three focus countries, and the species involved. The data contained here is the number of incidents reported and not the number of specimens or the weight of specimens that were illegal. This method was chosen to try to impose some consistency of measuring unit across the data. This is necessary because the format of CITES trade data is quite inconsistent and ranges from individual units, to kilograms, to grams, to pounds, to tons, to tonnes. Whilst the illegal wildlife was probably confiscated or seized, the CITES data does not give this kind of information; therefore the number of incidents are reported. The intention is to gain insight into the overall trends, geographic patterns and species targeted as well as the type of products that are being smuggled. The latter gives an indication of the reason for the demand, such as use in traditional medicine or as an addition to a collection (Wyatt 2012). Some brief background will now be given before the findings are presented.

Background

Whilst wildlife trafficking is beginning to receive much needed attention from the academic community (see Schneider, 2012; Wyatt, 2012), studies are still limited as to the regional variations that exist as well as the legal, social, and cultural factors influencing this crime. This research aims to fill part of the gap in knowledge by exploring the regional differences in wildlife trafficking between Australia, New Zealand, and the UK.

A brief survey of wildlife trafficking in these nations reveals differences in trafficking levels and the approaches to combat it. With a high amount of biodiversity and endemism, Australia allows no export of native live wildlife and has low amounts of detected illegal trade; New Zealand is equally high in biodiversity and endemism, allows the regulated export of wildlife, and has the highest amount of detected illegal trade of the three; and the UK, on the other hand, has comparatively low biodiversity, allows the regulated export of wildlife, and also has somewhat high amounts of wildlife trafficking (see Figure 1). As mentioned earlier, these three countries are demographically similar with a significant shared cultural history, so presumably the differences in levels of wildlife trafficking stem from law enforcement tactics, the import/export regulations, or some as yet unidentified correlating factor(s).



In terms of regulation, Australia and the UK both joined CITES in 1976, so are early adopters of provisions to protect wildlife under this framework. New Zealand did not become a signatory until 1989. Reporting trade data to the Secretariat started in earnest for the three countries at different times, which is evident in the sections below, but from Figure 1 it is clear that the first data became available in 1980. As Parties of CITES, each country has created a Management Authority which oversees the permit system attached to trading the differently listed species. Appendix I species can only be traded in limited circumstances and require both an import and export permit. Appendix II species are subject to trade quotas and monitored so that trade does not threaten that species' survival in the wild. These transactions need an export permit although a country can be more strict than the CITES standard. Each country also creates a Scientific Authority, which advises on what level quotas should be set and on the health and viability of species populations.

The Standing Committee of CITES establishes Categories indicating the degree of implementation of the legislation required to enforce CITES provisions. In Category 1 the country generally meets the requirements, in Category 2 some of the legislation does and does not meet the standard, and in Category 3 the legislation does not meet the standards. Australia, New Zealand, and the UK are all Category 1 countries. An additional administrative layer exists in the UK in that it has 11 overseas dependent territories in which the proper legislation must also be implemented. Three territories are in Category 1, six in Category 2, and two in Category 3 (CITES, 2012), so attention needs to be paid to further implementation of CITES in UK territories. New Zealand has three associated territories, two of which are self-governing and therefore responsible for CITES themselves. Neither the Cook Is-

lands nor Niue are signatories to CITES. This may in fact create a loophole for smuggling, which is explored below. The specific legislation that complies with CITES is detailed in the next country-specific sections as are the individual trends that are evident in each of these locales.

Australia

Australia is one of the 25 biodiversity hotspots in the world, which indicates that there is a high number of native species. In this case, endemic species are estimated to make up 80 per cent of the fauna and flora of this island continent (Alacs and Georges, 2008). Such uniqueness is often tied to wildlife trafficking where collectors in particular seek out less common species. Wildlife trafficking is especially a cause for concern for such environments because of the threat it poses to bio-security. This threat includes the introduction of parasites, viruses, and invasive species, all of which can have devastating consequences for endemic species (Alacs and Georges, 2008). This is strikingly evident in Australian history with the introduction of the rabbit and the cane toad. Both animals have caused significant damage – the rabbit to the native plants and thus unique ecosystems, and the cane toad to the native animals by out-competing them and poisoning predators not evolved to coexist with cane toads.

Research by Rosen and Smith (2010) shows that between 1996 and 2008, 6 per cent of recorded global illegal wildlife seizures occurred in Australia. This is equal to the amount seized in the US, and behind the UK (10 per cent), China (11 per cent), and India (20 per cent). Other studies by Halstead (1994), and Alacs and Georges (2008), provide foundational information into the nature and extent of wildlife trafficking in Australia. Combining this with CITES trade data, a current picture of the scope and scale is able to be pieced together. Halstead's (1994) study focused on the federal and state legislation that pertained to trade in wildlife. Whilst much of this has undergone revision, there are still relevant elements in her discussion that will be mentioned here. Alacs and Georges (2008) gained access to the Australian Customs' database of wildlife prosecutions from 1994 to 2007. This not only provides information as to the trends of wildlife trafficking, but also data as to the response of enforcement agencies to violations.

CITES in Australia is complied with through the Environmental Protection and Biodiversity Conservation Act 1999. This piece of legislation addresses more than wildlife trade and provides a foundation for preservation of ecological communities and heritage sites as well as implementing sustainable practices throughout industries that impact upon the environment (DSEWPac, 2010b). The Department of Sustainability, Environment, Water, Population and Communities (DSEWPac) oversees the CITES permit system, which pertains of course to international trade. Wildlife trafficking related violations can also be prosecuted under State legislation. This adds a layer of complexity to the Australian context because there are variations of licensing, enforcement, and sentencing of offences between states and territories. This provides a means for organised and international trafficking to utilize differences in state regulations to aid them in smuggling (Halstead 1994).

Export of live wildlife is essentially prohibited (Alacs and Georges, 2008; DSEWPac, 2010b). Therefore legal commercial operations must gain government approval and there is a licensing system for these businesses or individuals. This also consists of a strictly regulated permit system mainly for fisheries, crocodile farms, native flora collecting and growing, and kangaroo meat from sanctioned harvests. Captive breeding of native birds may provide a means of laundering wild-caught birds. Imports also need approval, even CITES Appendix II species, which is stricter than the convention requirements. Non-commercial imports and exports all need permits – so trade for pets, personal use, research, exhibition, and education are all tightly controlled as well (Alacs and Georges, 2008; Halstead, 1994).

Smuggling is typically accomplished through human couriers and postal deliveries (Bricknell, 2010). Therefore, wildlife trafficking is mostly detected at airports and in the post, with raids associated with these investigations also uncovering information (Alacs and Georges, 2008). Whilst Australian Customs and Border Protection Services is the main agency tasked with uncovering wildlife

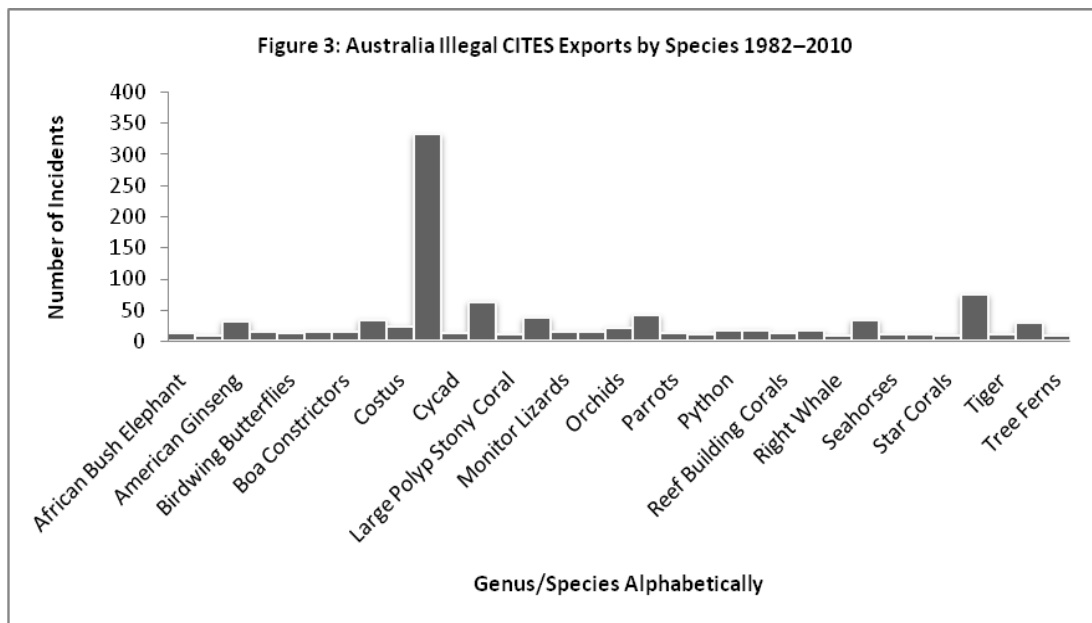
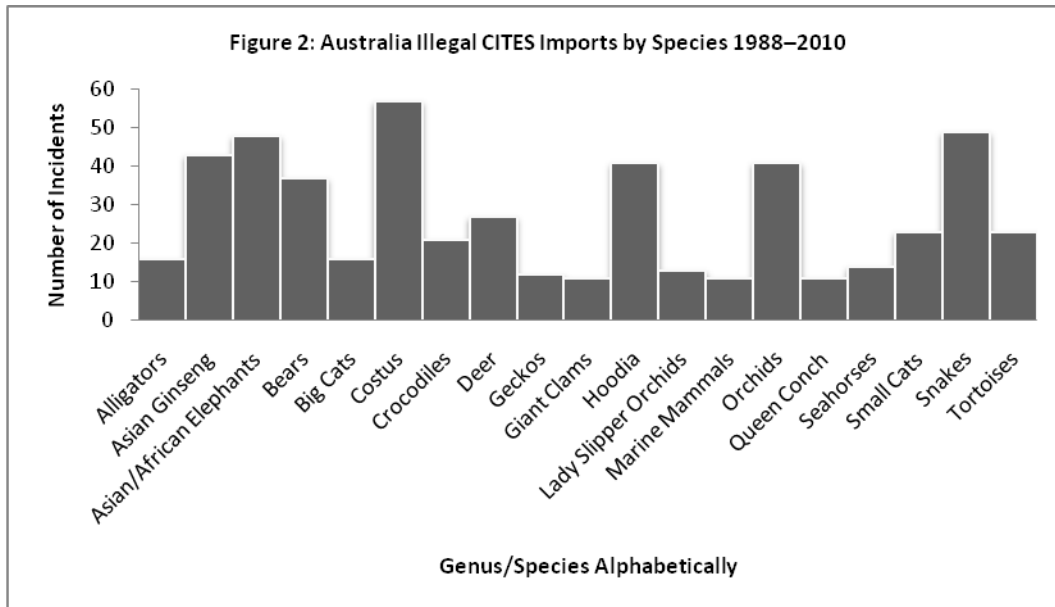
trafficking, the Australian Federal Police, DSEWPAC, and the Department of Agriculture, Fisheries and Forestry also play roles in investigations and prosecutions. Customs adopts a risk-assessment strategy for inspection priority, so search a limited number of people and packages either randomly or based upon intelligence (Australian Customs, 2010). In contrast, DSEWPAC relies on self-regulation and voluntary compliance schemes (Horne, 2013b). DSEWPAC deals with post-border possession and trafficking of wildlife and focuses their attention on links to organised crime (DSEWPAC, 2010a; Horne, 2013b). One per cent of Customs' seizures are 'major' in terms of quantity and value. The vast majority are people bringing in prohibited items purchased at international markets (Alacs and Georges, 2008). DSEWPAC has tried to address this aspect by providing travel agents with educational information about wildlife trafficking to try to curb tourists unintentionally buying products from endangered and protected species (Horne, 2013b). Bricknell (2010) categorizes the illegal activity as consisting of illegal export of native species, illegal import of exotic species, and the illegal domestic breeding and trading of both native and exotic species. This is explored further in analyzing the CITES data.

There was an increase in the number of Customs' seizures from 3,904 in 2004–5 to 7,533 in 2006–7, perhaps because of increased screening at airports, indicating more success at detection rather than an increase in trafficking. Some of the major seizures involved organised crime networks, which have been implicated in wildlife trade in Australia (Alacs and Georges, 2008). There is anecdotal evidence that reptile and insect trade involves outlaw motorcycle gangs (Blindell, 2006). More concrete proof is seen in incidents, which included trafficking of pythons and birds, seahorse powder from China through Australia to New Zealand, and cycads and orchids involving the US, South Africa, and Zimbabwe (Alacs and Georges, 2008). Research by the International Fund for Animal Welfare (IFAW, 2008) found Internet sales of CITES II species in Australia, particularly of the Hoodia plant for weight loss and some ivory. Overall the seizures are mostly of reptiles, which are smuggled through the post, inside ornaments, toys, books, or computers, and in socks, cigarette boxes, and specially built clothing (Alacs and Georges, 2008).

The next most commonly seized wildlife is birds and eggs. There are also a significant amount of illegal imports of what Alacs and Georges (2008) refer to as 'complementary' medicines from endangered species, which are used in traditional Asian or Chinese medicines. DSEWPAC has worked with the Australian Acupuncture and Chinese Medicine Association to develop a certification scheme that will reduce the use of endangered and protected species (Horne, 2013b). Other seizures consist of exports of native flora, imports of exotic fish, and confiscation of insects, arthropods, coral, and ivory (Alacs and Georges, 2008). In general, the perpetrators are a mixture of Australians and foreign nationals. There is also a mix of people acting alone or in small semi-organised groups, but both of these are more prevalent than more serious organised crime groups (Bricknell, 2010). The Customs seizures data does not reflect the concern in Australia over illegal, unregulated, and unreported fishing, which is degrading fish stocks particularly on the north coast (Putt and Anderson, 2007). Nor does the data capture the amount of illegal timber that enters Australia, which is also a large part of wildlife trafficking. Australia plays a role as a consumer of illegal timber and as of 2012 had passed the Illegal Logging Prohibition Act 2012 (Parliament of Australia, 2012), that bans the importation and sale of all timber products from illegally sourced wood similar to legislation in both the European Union (EU) and the US.

Turning to the CITES trade data, similar information is obtained in regard to species. Australia has the least number of illegal imports of wildlife in this comparative study with only 728 incidents over 30 years. Figure 2 provides a break-down of the species most frequently illegally imported. These appear to fulfil the demand for traditional medicines (seahorses, costus, and ginseng) as well as collectors' items and pets (ivory, snakes, and tortoises). In contrast, and most likely stemming from its high biodiversity, Australia had the highest amount of illegal exports (1,506), yet the CITES trade data reveals a slightly different trend in illegality than is reported in the literature. In terms of incidents, reptiles, particularly crocodiles, are the most frequently smuggled wildlife from Australia,

which corresponds to previous studies. While the commentary literature raises concerns over birds, the CITES trade data indicates that corals are the next most frequent illegal export (see Figure 3). If other marine species are added, such as giant clams, conchs, and mammals, marine wildlife is trafficked nearly as frequently as reptiles. This seems to indicate that a re-evaluation is needed of what is considered high-risk wildlife in the context of regulation and enforcement.



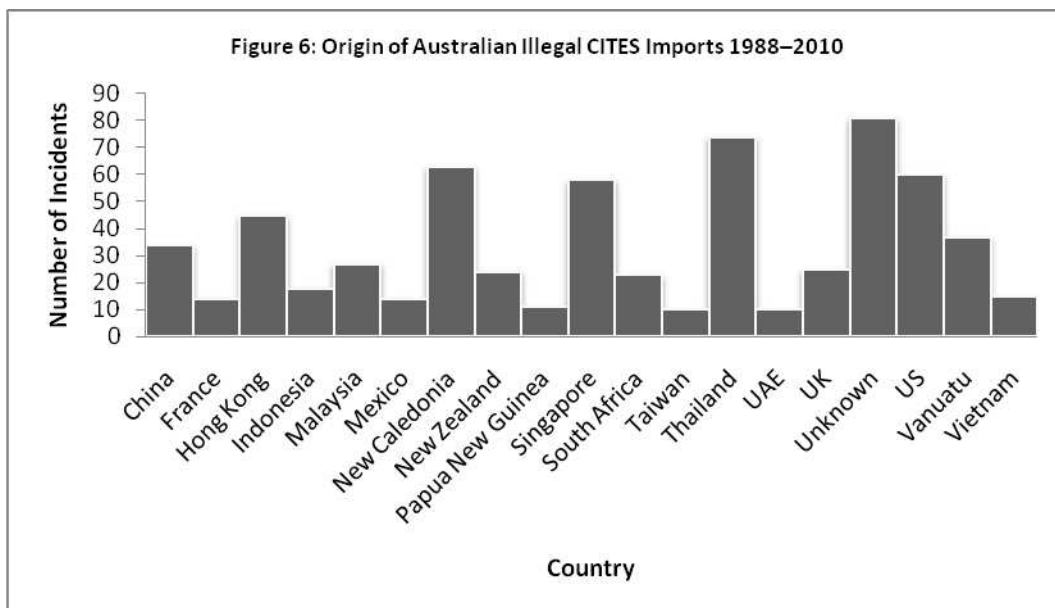
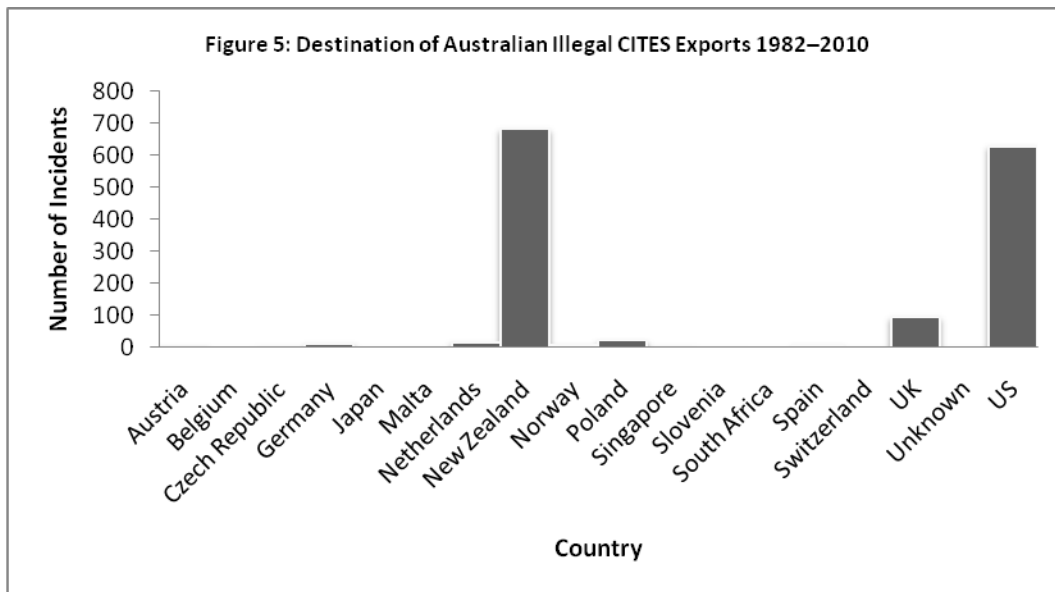
The CITES trade data collected provides the trends of a longer period of time than that from the study by Alacs and Georges (2008) and also identifies the countries involved in these illegal transactions. Although Australia was an early signatory to CITES, the data for illegal imports does not start until 1988, presumably indicating there was no detected illegal activity that needed to be reported in the early 1980s, not that there was no wildlife trafficking (see Figure 4). This assumption is supported

in the illegal export data, which starts in 1982 (see Figure 4). As mentioned previously, Australia has relatively few illegal imports and according to the CITES data a majority of these occurred in 2009 with others taking place in the late 1980s. Illegal exports fluctuate over the data period with the peak year being 1991. Whilst there is no clear pattern of increase or decrease, it can be noted that the final three years of data, 2008 to 2010, are three out of the five highest years for illegal exports in the 28 years of data.



In addition to dividing the data by year, Figures 5 and 6 show the breakdown of which countries were involved in the illegal transactions with Australia. The destinations of illegal exports from Australia were predominantly to New Zealand followed closely by exports to the US (see Figure 5). The UK also features in the illegal exports, but to a significantly lesser degree. The countries listed are all those that were collected in the data. This indicates that Europe is also a destination for illegal exports as well as Japan, Singapore, and South Africa. This is significantly different to the origin of illegal imports to Australia (see Figure 6). New Zealand, the US, and the UK again feature in the illegal imports, but the other countries are those, like Australia, with high levels of biodiversity. For instance, several Southeast Asian nations are implicated, such as Indonesia, Malaysia, and Thailand. China, Taiwan, and Hong Kong also have incidents of sending illegal imports to Australia. Of note is that two Pacific Island nations are involved – New Caledonia and Vanuatu – and for the highest amount of illegality (81 incidents). It is unknown where the illegal wildlife originated. From examination of the illegal imports, it can be seen that there is a regional pattern to the confiscation, where a majority of the illegality is stemming from neighboring nations or those within reasonably close proximity. This is in contrast to the exports, which, except for New Zealand, are predominantly going to the US and Europe.

What happens to these offenders? Fines are up to A\$110,000 for an individual and A\$550,000 for a corporation with a maximum of ten years imprisonment. Alacs and Georges (2008) claim that this is fairly severe compared to other countries. Fines are the most common penalty and are less than the value of the wildlife on the black market. Sentence severity has increased, but prosecutions remain less than one-quarter of identified cases, so while harsher in principle, in practice penalties appear rather weak (Alacs and Georges, 2008). Bricknell (2010) also observed that penalties are only a fraction of the maximum that could be given.



In an effort to protect its highly diverse ecology, Australia has opted for comparatively stringent regulation of wildlife trade in and out of its borders. Previous studies and the CITES trade data on illegality indicate that this has possibly been a successful strategy in terms of limiting the amount of wildlife trafficking that is taking place. This cannot be known for certain since there is no way of knowing how much illegal trade is occurring that is not discovered. Whilst there are incidents, as will be clear from the next two sections, the known incidents in Australia at least are not on the same scale as those experienced by other similar countries. It is possible that the lack of wildlife trafficking is influenced by the severe penalties that can (although as yet have not been) be given were someone to be convicted of smuggling plants or animals. What could be happening and would not be captured within this data set is domestic trafficking. There is the possibility of Australian inter-state smuggling of protected species that may be contributing to their decline, which may warrant detailed examination at the state level. As was clear from the data above, there is a connection between Australia and

New Zealand in regard to wildlife trafficking. New Zealand's efforts to control the illegal trade are the focus of the next section.

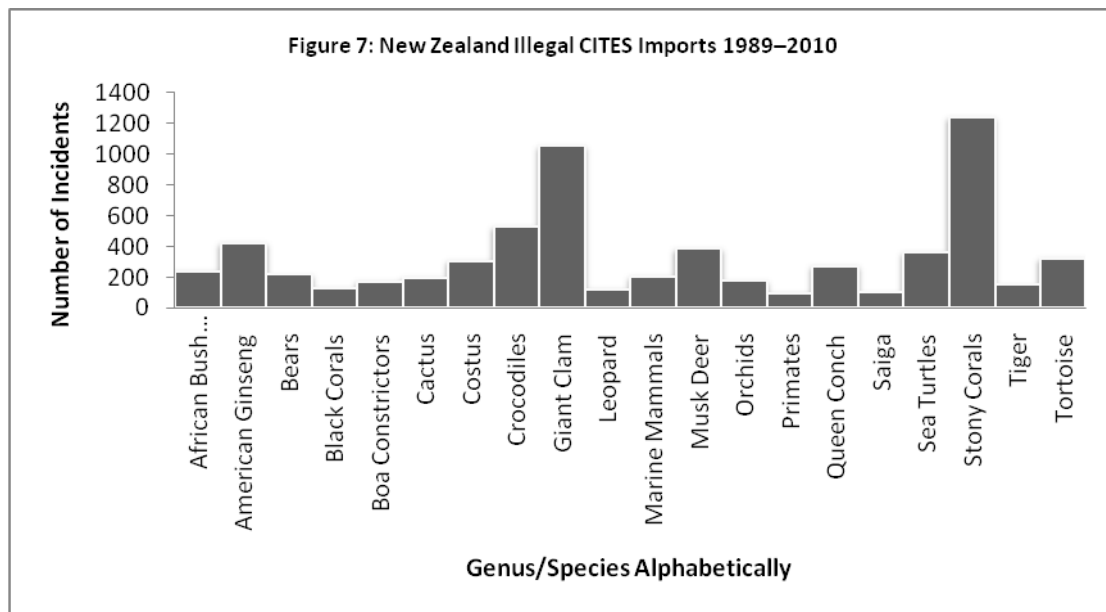
New Zealand

Whereas wildlife trafficking has received a reasonable amount of attention in Australia (Halstead, 1994; Alacs and Georges, 2008; Bricknell, 2010), a literature search for similar studies in New Zealand found very little. This is a cause for concern for two reasons. First, New Zealand has a large number of endemic species stemming from the North and South Islands being isolated for millions of years (New Zealand Biodiversity, no date). This uniqueness means that many of the bird, reptile, and insect species are targeted for the illegal trade in wildlife. For instance, 16 jeweled geckos were seized and thought to be worth NZ\$200,000 (New Zealand Government, 2010). Second, as indicated in Figure 1, New Zealand has the highest number of incidents of wildlife trafficking of the three countries in this comparative study, which is evidence of criminal activity that needs to be addressed. New Zealand experienced illegal importation of nearly twice as many CITES-listed species as the UK, and over ten times as many as Australia. Illegal imports are also significant in the New Zealand context, as they are in Australia and the UK, because of the risk and threat of invasive species that is attached to the illegal imports of wildlife. Just as Australia's biodiversity has been damaged from introduction of the rabbit and cane toad, New Zealand's ecosystems have suffered from possums, cats, dogs, and so on. Thirty-two per cent of endemic land and fresh-water based birds on the islands have become extinct, as have three reptile species and 11 vascular plants (New Zealand Biodiversity, no date). Within the last few years, varroa mites were introduced when someone smuggled in a queen bee (New Zealand Government, 2010). This can have devastating consequences for the agricultural industry. There is a sense of urgency to protect the remaining biodiversity, and stopping both the illegal import and export of wildlife may play a role in doing so.

As mentioned earlier, New Zealand became a signatory to CITES in 1989, over a decade after it was established. The piece of legislation that meets compliance with the requirements set out by CITES is the Trade in Endangered Species Act 1989. CITES enforcement is mainly carried out by the Department of Conservation as the Management Authority, although New Zealand Customs and the Ministry of Primary Industries also play roles. These three have signed a memorandum of agreement to form the Wildlife Enforcement Group (WEG) which focuses on enforcement and capacity-building. The Customs service hosts WEG as well as providing resources and staff, as do the Department of Conservation and the Ministry of Agriculture and Forestry (New Zealand Government 2010). WEG was the first cooperation of its kind and is often cited as the possible model for proactive intelligence gathering to uncover modus operandi and tackle future crimes (Horne, 2013b).

Most well documented regarding the illegal wildlife trade in New Zealand is the illegal export of birds. Australia banned export of its native species in 1960, which resulted in an increase in prices of Australian species, particularly birds. As reported by TRAFFIC Oceania, bird traffickers began smuggling birds from Australia to New Zealand on light planes and in specially built clothing. Networks with traffickers from Australia, New Zealand, the US, the UK, and South Africa were using New Zealand's captive-bred industry to launder wild-caught native Australian species and then transport them 'legally' out of New Zealand to other parts of the globe. At the time, the government was criticized that the Trade in Endangered Species Act 1989 was flawed and allowed this sort of laundering to take place. These networks were not serious organised crime, only loose affiliations (Holden, 1997), but there have been cases where serious organised crime has been implicated in wildlife trafficking in New Zealand (New Zealand Government, 2010). Whilst the New Zealand government claims organised crimes' involvement in overfishing, wildlife trafficking, and illegal logging are well-documented, most evidence is anecdotal. Exceptions to this are such cases in New Zealand where gangs and Asian organised crime have been arrested for poaching paua (edible sea snails known elsewhere as abalone) and rock lobster, which were estimated to be worth NZ\$270,000 in a year (New Zealand Government, 2010).

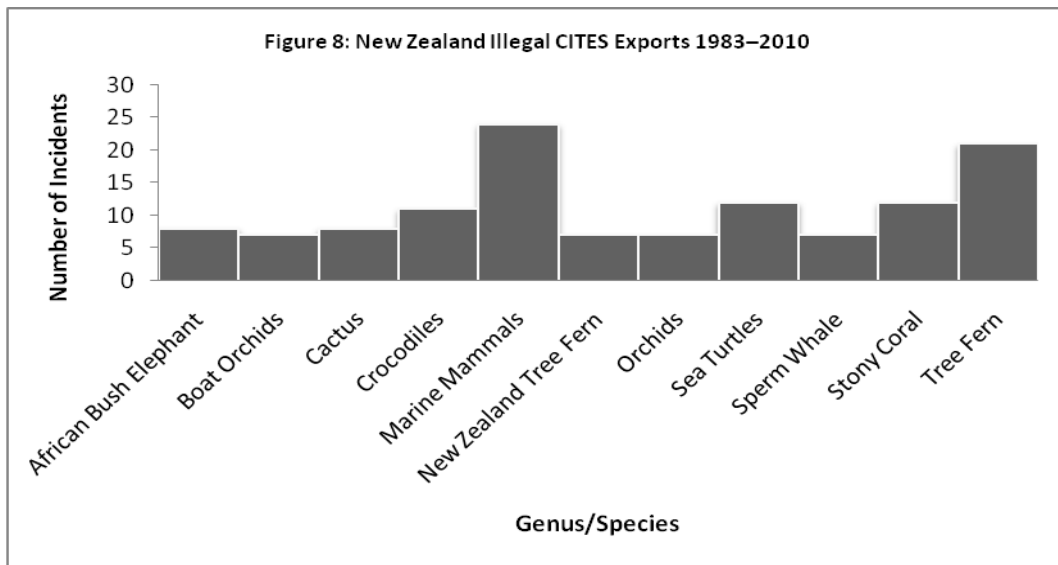
New Zealand and Australia have a fair amount of overlap in terms of the species which are being trafficked. As seen in Figure 7, reptiles such as crocodiles and sea turtles are also illegally imported into New Zealand. Imports also consist of those products categorized as traditional medicines – ginseng, costus, musk deer, and saiga, for instance. Difference is noticeable in that corals are illegally imported to New Zealand whereas they are, as indicated, one of the main illegal exports from Australia. Looking more closely at the data, this is clearly the flow of this illegal market. It cannot be determined if New Zealand is the final destination for the coral or if the country is a transit place for smuggling coral to other destinations. There is also the possibility that this is not an ‘organised’ smuggling operation, but rather evidence of large amounts of uninformed tourists illegally taking home coral souvenirs. The species that are listed in Figure 8 are only those where there are more than one hundred incidents within the 21-year dataset. There are hundreds of different species within the total 9,320 incidents of illegal imports.

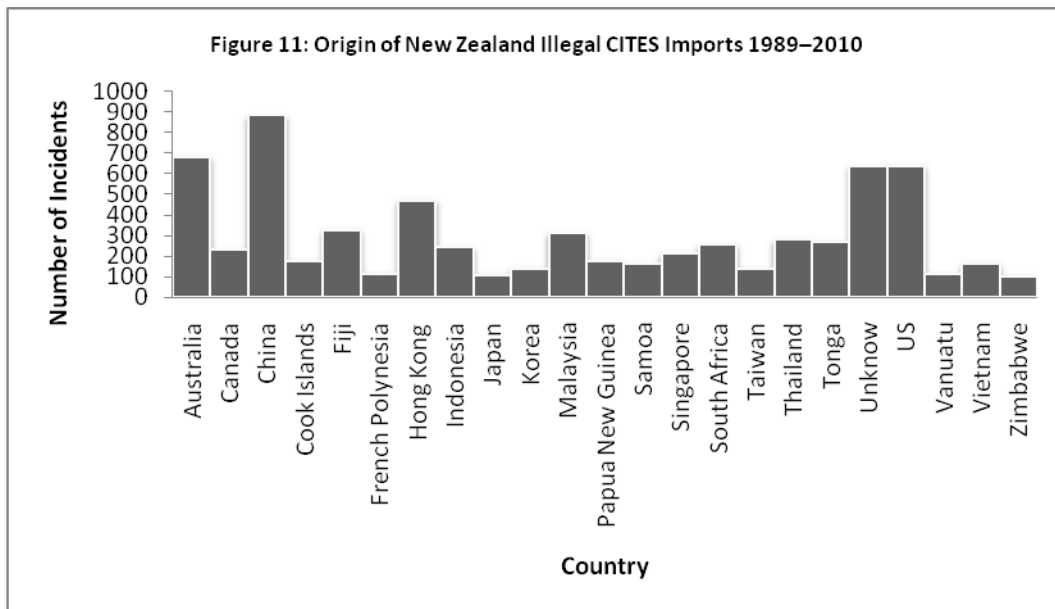


New Zealand had only 221 illegal exports between 1983 and 2010, the least of the three countries. Presumably, there is export data before New Zealand joined CITES because other Parties were documenting where their illegal imports were originating. Those species with more than five incidents are found in Figure 8. These include some reptiles, but mainly feature marine mammals and corals as well as several plants, including two types of orchids and two types of native ferns. This raises an important point for the study of wildlife trafficking, which will be addressed in the analysis section.

Illegal imports of wildlife to New Zealand fluctuate less than those observed in Australia. There is a clear increase from 1989 to 1998, when there were 902 illegal imports reported to CITES (see Figure 9). Illegal imports steadily declined until 2006. At that point, there is an increase and the last three years of complete data, 2008 to 2010, are fairly consistent at over 500 incidents each year. To put this in perspective, this is more than one confiscation or seizure every day. In terms of exports, there is no distinctive pattern (see Figure 9). The highest number of incidents – 22 – was in 2009, but clearly New Zealand authorities and WEG need to spend their resources and times stopping illegal imports of wildlife from getting into the country. These exports are mostly bound for either the US (124 incidents) or the other countries in this study, Australia and the UK (24 and 34 respectively) (see Figure 10). Illegal imports also involve the US, which is one of the five main origins of illegal wildlife coming to New Zealand (see Figure 11). As was the case in Australia, another of the five main origins is ‘unknown’ which means that the place where the illegal wildlife was taken from cannot be deter-

mined. The three other countries are Australia, which reflects the pattern of illegal coral trade discussed earlier, China, and Hong Kong. This may account for the illicit trade in traditional medicines that is witnessed coming into New Zealand, which could be connected to the diaspora populations of Northeast Asia. Illegal imports are also coming from countries in Southeast Asia, the Pacific Islands, and Africa. The Cook Islands has 178 incidents of illegal imports into New Zealand. Whilst this may not appear to be significant within the larger picture, for a small self-governed island it raises the question as to why the Cook Islands have not become a party to CITES since there is clearly evidence that wildlife trafficking is taking place there. It may be that the islands are a transshipment point rather than a source, but adoption of CITES would still address this. The diversity of both products and countries that are involved with the trafficking of wildlife into New Zealand gives an idea of the complex task that is given to WEG, Customs, and law enforcement in uncovering this black market.





The Trade in Endangered Species Act 1989 has increasing penalties depending on whether the trafficked species is exploited, threatened, or endangered. For conviction of trafficking in exploited species, an individual perpetrator may be given a fine of up to NZ\$37,500, whereas a corporation can receive a fine of up to NZ\$75,000. Trafficking of threatened species may result in up to three years in prison and a possible NZ\$50,000 fine; corporations convicted will only receive the fine, but it could be NZ\$100,000. Five years is the maximum imprisonment for trafficking in endangered species and the fine is not to exceed NZ\$100,000 and twice that for corporations (TIES, 1989). Although the penalties appear quite harsh (still less than in Australia), there is no indication that convictions have resulted in maximum prison sentences or fines.

New Zealand's regulation of trade in wildlife allows for the export and import of endangered, threatened, and exploited species within a controlled permit system. This is not as restrictive a system as that of Australia. This may be the reason for New Zealand having the highest amount of illegal imports within the data collected for this research. It is worth further exploration to unpick if having a legal trade is providing a mechanism under which illegal trade is able to take place, and if requiring CITES permits for importation of Appendix II species would decrease the amount of illegal imports. There is also the possibility that the specialized WEG is uncovering more illegal activity, so that their success makes it appear as if New Zealand has higher incidents of illegality where in fact they are able to detect more. Without further research, it is not possible to be certain either way. In the next section, the UK context is compared to that of New Zealand and Australia.

United Kingdom

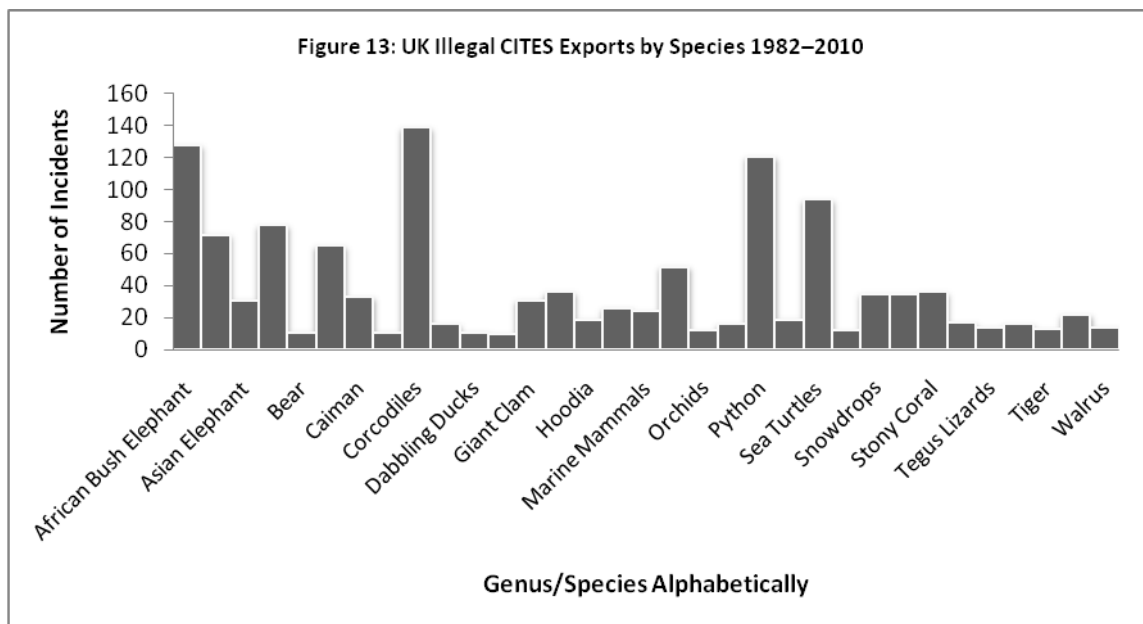
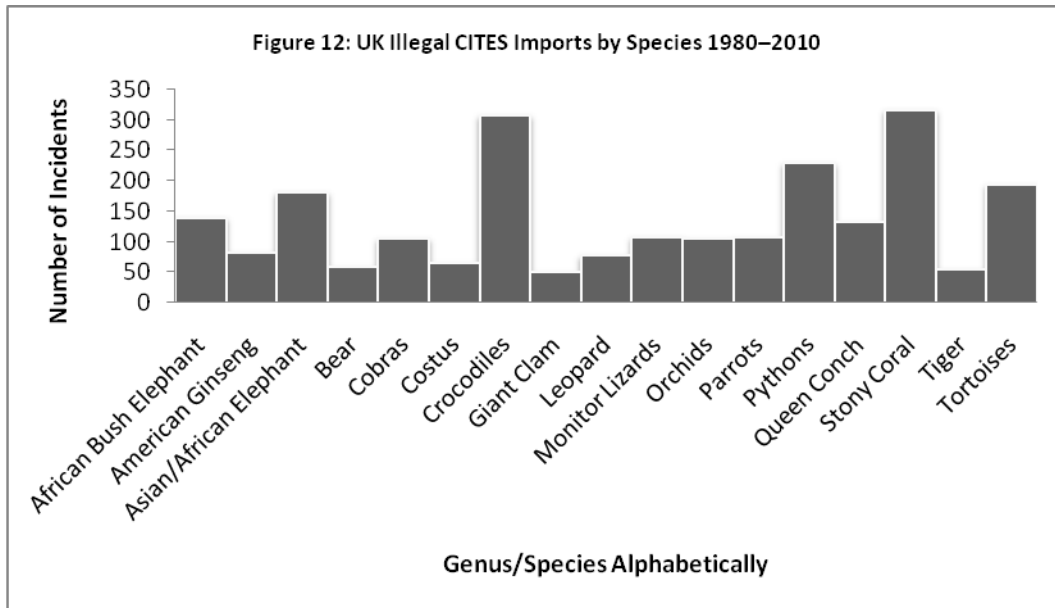
The UK was an earlier signatory to CITES. Whereas the British Isles may not have the diversity of wildlife present in Australia and New Zealand, the UK is still faced with the challenges of preventing a significant amount of illegal wildlife trade. This stems from the UK being a destination for particular categories of wildlife, as detailed shortly. The 11 UK overseas dependent territories contain more diversity than the UK itself and there is the possibility that these places are sources of trafficked wildlife. This possible loophole will be discussed in the analysis.

The British legislation that governs wildlife trafficking and therefore complies with CITES is the Control of Trade in Endangered Species (Enforcement) (Amendment) Regulations 2005 (COTES). As part of the EU, the UK must implement legislation that conforms to EU regulations and COTES does that in terms of wildlife trafficking. COTES prohibits the 'import, export, landing, keeping, transportation and commercial display of, trade in and disposal of flora and fauna (including parts and derivatives)'. This applies when a person has knowledge that the wildlife was illegal and requires that the person make an effort to determine the legality (COTES, 2005). The legislation has Annex A species that are the most endangered and Annex B species that are threatened. This essentially corresponds to the CITES Appendices. The UK Border Agency has a CITES Enforcement Team whose task is to uncover smuggling and there is also the National Wildlife Crime Unit that assists with investigations of smuggling of CITES species. A risk-based approach is also used in the UK when searching for smuggled wildlife. Wildlife that is confiscated is housed at the Heathrow Animal Reception Centre until a suitable permanent home can be found and the reception centre assists the CITES Enforcement Team in searching legal shipments of wildlife that enter the UK's largest port, Heathrow Airport for hidden or stowaway wildlife (Wyatt, 2013).

Wildlife trafficking in the UK has been a research topic both by scholars and non-governmental organisations (see Lowther, Cook, and Roberts, 2002; TRAFFIC, 2011; Wyatt, 2013). The patterns that have been observed are similar to those that have been discussed in regards to Australia and New Zealand. All three countries have legal and illegal trade in reptiles for the pet industry. In the UK, reptiles and amphibians have been increasing in popularity with a wider range of species on offer than was observed previously (Altherr and Freyer, 2001). In fact, the number of species for sale more than doubled from 1992–93 to 2004–5 with only 31 per cent of the species remaining the same in the time periods analysed. This has implications for the illegal trade because captive breeding cannot adjust quickly to new demands in the market (Tapley, Griffiths, and Bride, 2011), so demand is met by capturing reptiles from the wild.

As Customs seizures collected by TRAFFIC show, reptiles are the wildlife that features most prominently in wildlife trafficking in the UK. Seizures at Heathrow Airport from 1997 to 2011 expose the range of reptile species as well as amphibians. There are numerous snakes, geckos, monitor lizards, salamanders, and frogs (TRAFFIC, 2011). Like Australia and New Zealand, and arguably all countries which are importers of illegal wildlife, unregulated wildlife trafficking may be a conduit by which non-human animal disease is spread. For instance in the UK, the spread of *Batrachochytrium dendrobatidis* (a fatal skin disease causing multiple amphibian extinctions) is linked to the trade in

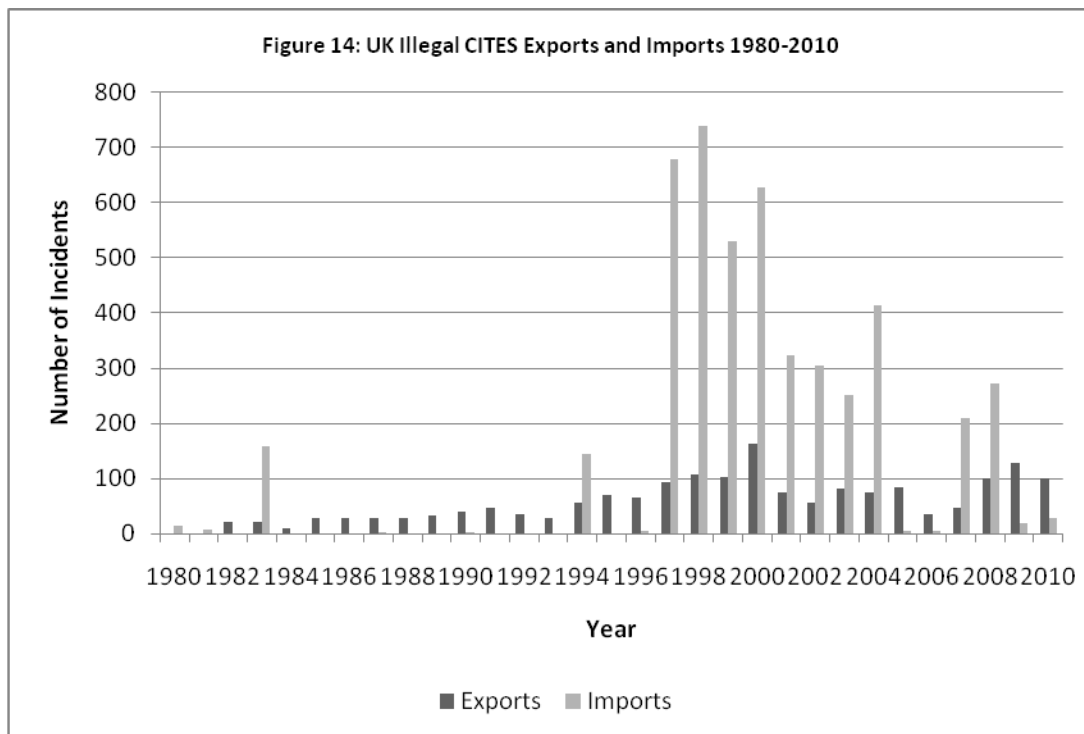
frogs (Fisher and Garner, 2007). Birds are also smuggled into the UK for the pet industry, as with Australia and New Zealand (TRAFFIC, 2011). This seizure data is of CITES-listed species, so is also contained within the CITES trade data collected for this study, but it is only part of a larger picture discussed below. Perpetrators of wildlife trafficking in the UK also fit a similar profile to those in Australia and New Zealand. Whilst organised crime appears to be playing an increasing role in smuggling of wildlife (Lowther, Cook, and Roberts, 2002), a vast majority of the offenders are individuals with some connections to loosely connected informal networks.



Despite being some 19,000kms apart, the UK has a similar pattern of wildlife trafficking to that of Australia and New Zealand in terms of species smuggled. The illegal imports from 1980 to 2010 are not unlike those in the two previous sections: reptiles (cobras, crocodiles, lizards, and tortoises), birds (parrots), marine wildlife (coral, conch, and giant clams), traditional medicines (ginseng and costus)

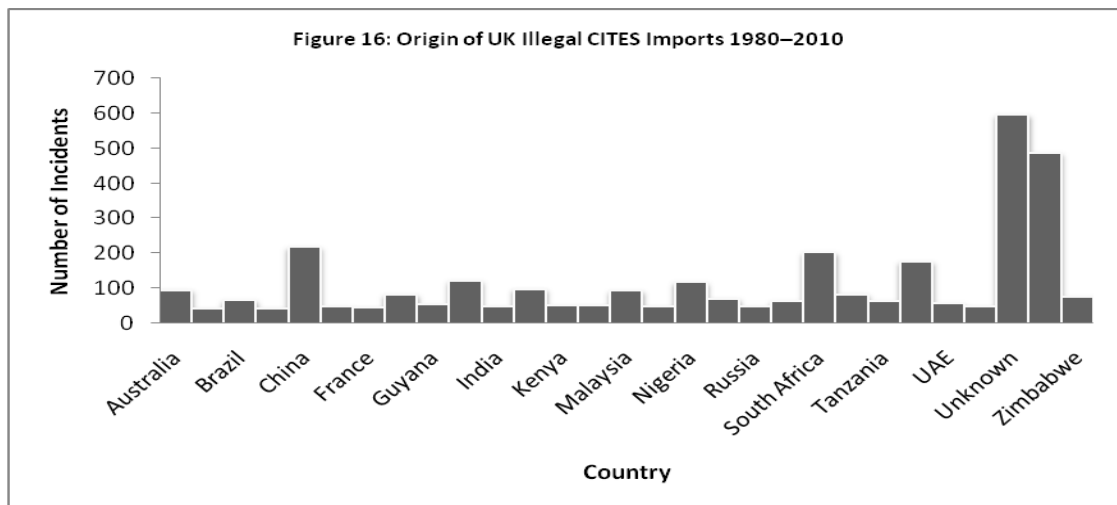
and ivory are the most frequently found species (see Figure 12). Figure 12 does not include the entire range of species, only those with over 50 recorded incidents. Over the 30-year period there have been 4,762 incidents of illegal imports reported to CITES (see Figure 1). As in New Zealand, illegal exports are significantly less than the number of incidents of illegal importation (see Figure 13). However, the diversity of species is not unlike that of the illegal imports. Reptiles feature most prominently including crocodiles, pythons, and sea turtles. Again, there are multiple marine wildlife species and those used to make traditional medicines. What is notable is that unlike Australia and New Zealand, where many of the species being trafficked are native, very few if any of the species being trafficked from and to the UK are native. This is a reflection of the lower amount of diversity, but may also indicate laundering through legal channels.

The pattern of illegal imports into the UK is different from the other two countries. No significant amounts of illegal imports into the UK were reported to CITES until 1997 (see Figure 14). In the period to 2004, there are more than 250 incidents each year at a minimum. The levels then fluctuate until 2010. It is only possible to speculate as to the reasons for this pattern. It is possible that enforcement and detection efforts were improved in the late 1990s and that this enabled the UK to uncover more illegal wildlife trade and to have more to report to CITES. The increase corresponds to the first drafting of COTES in 1997, so possibly there is a connection to increased law enforcement attention. This is arguably more probable than a significant increase in the amount of trafficking occurring. Illegal exports are reported every year from 1982 with the time period between 1997 and 2004 being relatively high to other years. In contrast to illegal imports, illegal exports have remained at the level of the early 2000s with 2009 being the second highest (127 incidents) since CITES implementation (see Figure 14).



Illegal exports from the UK are going to fewer countries than seen above (see Figure 15). Predominantly, species are sent to the US and New Zealand, with a few being bound for Australia. The US is also the most frequent importer of illegally traded wildlife although 'unknown' has a higher number of incidents (see Figure 19). Australia is one of the origin countries of illegal imports with over 40 incidents. New Zealand had fewer than 40, so does not appear on the figure. The countries are in eve-

ry region of the world – South America, the Caribbean, Asia, Africa, Europe, and Oceania. Apart from the US, China, Thailand, and South Africa stand out as countries which are regular origins of illegal imports. That being said, Figure 16 shows many countries that may warrant particular scrutiny of their wildlife trading.



Wildlife traffickers can be prosecuted either under COTES or under the Customs and Excise Management Act (1979) (Alacs and Georges, 2008). The former can be tried in the lower magistrate's court. If a summary conviction is found then the perpetrator may be given up to six months in prison and/or a fine of up to £5,000 or both. A COTES violation can also be tried in the Crown court where a conviction on indictment may result in up to five years in prison and/or unlimited fines or both (COTES 2005). If convicted for a violation of the Customs and Excise Management Act (1979), a perpetrator can receive a maximum of seven years imprisonment and unlimited fines (Alacs and Georges, 2008). As seen in the previous two countries, maximum penalties are never given and cases rarely go to the higher court (Lowther, Cook, and Roberts, 2002).

The UK falls within the middle of three countries studied here in terms of both the number of incidents of illegal imports and exports. Many of the same species make up these illegal imports and exports, which indicates similar wildlife consumer demands to Australia and New Zealand: reptiles and birds for the pet industry and traditional medicines. There is illegal trade between the three countries, and the UK also contends with numerous origin countries being implicated in the illegal imports. In

regards to who is perpetrating the smuggling, similarly to Australia and New Zealand, whilst there is mostly anecdotal evidence of organised crime involvement in wildlife smuggling, prosecutions indicate individual offenders acting within informal networks, which are loosely associated.

Analysis

In general, Australia, New Zealand, and the UK have a fair amount in common when it comes to wildlife trafficking. In 2010, each country had some of the highest amount of illegal exports recorded since the implementation of CITES. Australia had a low number of incidents of illegal imports in 2010, but the number of incidents is usually low. The UK's reported incidents were also down, but New Zealand saw a high number of illegal imports. As four of the six measurements of trade (import and export for each of the three countries) are relatively high, this indicates that wildlife smuggling continues to warrant attention in these countries. Each of the other countries features in the illegal imports and exports of one another – Australia receives and sends illegal wildlife to the UK and New Zealand; New Zealand receives and sends illegal wildlife to the UK and Australia; and the UK receives and sends illegal wildlife to Australia and New Zealand (the latter does not appear in Figure 11 because of the comparatively low amount). Efforts to reduce illegal wildlife trade may then entail closer cooperation between the three countries.

Other countries that should be involved and that are included in each of the three countries dataset are the US, China, Hong Kong, Thailand, and South Africa to name just those with a significant number of incidents. Other Southeast Asian and European countries could also have an impact. It is noticeable that each country has a high number of illegal incidents for which the origin is unknown. This indicates that countries which allow the export of wildlife must be called upon to monitor exports much more strictly as they leave the source country. This may reduce the amount of illegal imports to other countries, but also enable the wildlife to be returned to the place where it was captured from or at least remain in the country from which it was taken.

The species that are illegally smuggled in the three countries also tend to be similar. There is clearly an illegal market for pets, both reptiles and birds, in Australia, New Zealand, and the UK. The CITES data does not actually indicate a high amount of bird trafficking in relation to New Zealand although the literature has documented it in the past (TRAFFIC, 2011). The pet industry raises regulatory challenges because, as indicated in each of the above sections, part of the demand is reliant upon captive breeding programmes. Captive breeding provides a means to launder wild-caught reptiles and birds into the legitimate market. Although captive breeding has been advocated as a means to reduce the pressure on wild species, this does not always happen for a variety of reasons. Intensive captive breeding takes place from a limited gene pool, which can mean low fitness levels of the progeny produced – this ultimately leads to hobbyists still seeking wild-caught specimens because they are healthier. Also, captive breeding satiates the demand, thus decreasing prices and the incentive to captive breed (Tapley, Griffiths and Bride 2011), so wildlife are still taken from their natural habitats. Also, when one species is regulated it often displaces the demand to another species, which may not be captive bred (Carpenter et al., 2004). So whilst captive breeding may help to some degree, it has not completely reduced the pressure on wildlife being captured. This is important because it is part of the regulatory structure that each of these countries maintains to combat wildlife trafficking and must be strictly monitored to avoid legitimate industries from masking illegal activity. Furthermore, it should be a target area for law enforcement in that it is necessary for regulatory agencies to have good relations with traders to develop intelligence networks (Halstead, 1994).

Traditional medicines are also smuggled to each of the three countries. Presumably, this is related to the illegal imports coming from China and Hong Kong. The three countries have diaspora populations from China and other parts of Asia and this may account for the demand for traditional medicines. This may warrant further outreach activities as discussed in the Australian section where law enforcement runs campaigns with partners in these communities in an attempt to reduce demand for these illegal products. Each of the countries also has smuggling of plants, particularly orchids, and

marine wildlife such as giant clams and coral. Plants and marine wildlife rarely receive attention and may be regulated in a different manner. Coral, for instance, is not a species that Customs would necessarily target. It could be argued that a majority of the research conducted around the illegal trade in wildlife has focused on terrestrial non-human animals. The data from this study, however, indicates the need to research the trafficking of marine wildlife as well as plants as they clearly feature in this black market. As has been observed in cases of trafficking of terrestrial non-human animals, smuggling of marine wildlife and plants is also most likely resulting in damage to the ecosystems from which they are trafficked. This has not been documented in the literature. This indicates that the three countries should address the smuggling of these species in particular as the amount is significant and it has similar negative environmental consequences as the trafficking of terrestrial wildlife.

Part of this study and of the larger TEC Project is to analyse the presence of networks understood here as ‘actors ... linked to each other through stable formal or informal relationships of communication and exchange’ (Sangiovanni, 2005: 7). Whereas there are a few examples of serious organised crime engaged in wildlife trafficking as detailed above, these are the exception rather than the rule. It is evident from prosecutions and other studies that wildlife trafficking taking place in and out of Australia, New Zealand, and the UK tend to be individual offenders. They are most likely part of networks that communicate regarding the demand for wildlife in various places, but a vast majority of the time these are informal relationships and networks. They may, in fact, be stable networks, but more research into the offenders needs to be undertaken to determine their stability and resilience.

The main area of difference in this study is the regulation and penalties that each of the countries employs. All are signatories to CITES and their Category 1 status indicates that they have implemented the required legislation to comply with the CITES provisions. Australia has gone a step further; it requires permits for CITES Appendix II imports (and reports noticeably lower levels of illegal imports). It is recommended that New Zealand and the UK consider requiring import permits for CITES Appendix II species as this seems to correlate to Australia’s success in this aspect of combating wildlife trafficking. New Zealand and the UK should also make more of an effort to address wildlife trafficking in their territories. In the case of New Zealand, this would mean encouraging the Cook Islands and Niue to join CITES, and in the case of the UK this would mean ensuring that each of the territories has the minimum required legislation. Additionally, they may provide gaps in enforcement that enable traffickers to smuggle illegal wildlife into the UK though more research needs to take place to verify this possibility.

Even before CITES, Australia had banned the export of native wildlife. New Zealand and the UK still allow export of native species within their respective regulatory frameworks. Yet, illegal exports are higher in Australia than in the UK or New Zealand. It is impossible to determine if they would be even higher were there no ban or if the amount of exports is more a reflection of the high amount of biodiversity in Australia, which increases prices and therefore incentive to smuggle. This discussion does not reflect other responses to wildlife trafficking besides the legislation that complies with CITES. For instance, Horne (2013a) indicates that in the Pacific and Oceania, policy response to wildlife trafficking is mostly through other contexts such as biodiversity conservation, environmental sustainability, economic development, or transnational organised crime initiatives. These then undoubtedly affect the amount of wildlife trafficking that is taking place. Furthermore, this research does not capture the multi-lateral agreements or multi-partner initiatives that are taking place particularly those like the Australasian Environmental Law Enforcement and Regulators Network (AELERT) in Oceania or Partnership for Action Against Wildlife Crime (PAWS) in the UK.

The penalties that each of these countries imposes might also impact upon the amount of wildlife trafficking that is detected. Australia has very high penalties with fines of up to A\$110,000 for individuals and A\$550,000 for corporations. Prison sentences can be up to ten years. New Zealand’s are slightly less with fines being NZ\$100,000 (A\$88,000) for individuals and NZ\$200,000 (A\$176,000) for corporations. The prison sentences are a maximum of five years. The UK’s are the least with fines of £5,000 (A\$8,550) and no increased penalties for corporations. Technically, fines could be unlim-

ited if the case were tried in the higher court, but this does not happen. The punishments vary wildly, but what is common is that maximum fines and sentences are not given, so punishment for wildlife trafficking in each country is considered weak and not seen as a deterrent to potential wildlife offenders.

Conclusion

Even with the similarities of demographics and geography (island nations), the three countries that were part of this comparative research experience different levels of wildlife trafficking. This is at least the picture given from the number of illegal incidents that are reported to CITES each year. In using this dataset, it is acknowledged that this does not take into account the intra-state internal trafficking that may be happening. And as with all criminological studies, it is based upon reported crimes, so the dark figure of all the incidents of wildlife trafficking that were not discovered is unknown. This may indeed mean that levels of wildlife trafficking within these three nations differ from the data presented here. That being said, the CITES data still provides useful information to guide further studies. In particular, smuggling of plants and marine wildlife warrant more attention in terms of research and law enforcement initiatives as they are prominent within this black market, but have yet to be the focus of prevention efforts.

Variations in the amount of wildlife smuggled in and out of Australia, New Zealand, and the UK cannot be directly correlated to the different regulations or punishments, but a key difference that may be linked to low incidents of illegal imports in Australia is that they require a CITES import permit for Appendix II species. This is stricter than the CITES requirement and is recommended for New Zealand and the UK. Australia has higher punishments for wildlife trafficking and this too may contribute to their comparatively low number of incidents. All countries should revisit how these offenders are punished as the sentences and fines imposed seem nearly always to be at the lowest end of the scale.

Variations in wildlife trafficking incidents do not correlate to the species themselves, since there is a significant amount of overlap in the species trafficked, which indicates similar demand markets (Wyatt, 2012). The differing levels of wildlife trafficking could also stem from another source not detailed here, possibly law enforcement tactics and response, or a social or cultural explanation. Further studies will need to be done in order to determine more fully the cause of the relative success of Australia in combating the illegal wildlife trade. The UK and New Zealand may be able to learn valuable lessons from this kind of further exploration. Other comparative studies on wildlife trafficking (and other green crimes) between nations may prove key in uncovering tactics that can help improve existing policies and prevention strategies. Cooperation and sharing of best practice is essential in order to reduce global networked crime such as the illegal trade in wildlife, which is threatening the unique and irreplaceable species and environments of the world.

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